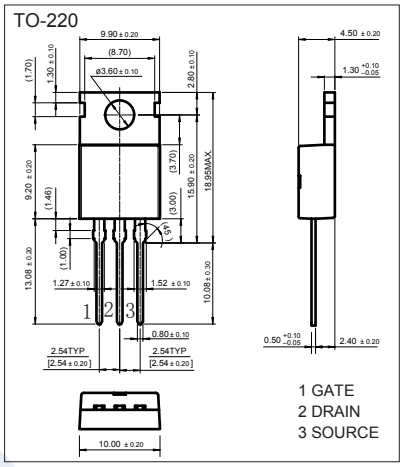
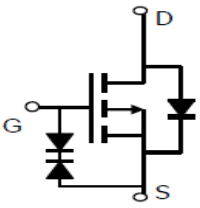
P-Channel MOSFET

IRF9530 (KRF9530)



■ Features

- $V_{DS\ (V)}$ =-100V
- I_D =-13 A (V_{GS} =-10V)
- $R_{DS(ON)}$ < 205mΩ (V_{GS} =-10V)
- $R_{DS(ON)}$ < 300mΩ (V_{GS} =-4.5V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	±25	
Continuous Drain Current	I_D	-13	A
Pulsed Drain Current	I_{DM}	-32	
Power Dissipation Tc = 25℃	P_D	50	W
Junction Temperature	T_J	150	℃
Junction Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V	-100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-80V, V_{GS}=0V			-0.1	uA
		V_{DS}=-80V, V_{GS}=0V, T_J=85℃			-30	
Gate-Body leakage current	I_{GSS}	V_{DS}=0V, V_{GS}=±16V			±10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-1.2		-3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-7.8A (Note.1)			205	mΩ
		V_{GS}=-4.5V, I_D=-6A (Note.1)			300	
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-30V, f=1MHz		1050		pF
Output Capacitance	C_{oss}			70		
Reverse Transfer Capacitance	C_{rss}			40		
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-50V, I_D=-7.8A		20.9	38	nC
Gate Source Charge	Q_{gs}			4.2		
Gate Drain Charge	Q_{gd}			5.2		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=-10V, V_{DS}=-50V, R_L=15Ω, R_G=6Ω, I_D=-1A			21	ns
Turn-On Rise Time	t_r				19	
Turn-Off DelayTime	$t_{d(off)}$				100	
Turn-Off Fall Time	t_f				55	
Body Diode Reverse Recovery Time	t_{rr}	I_F=-4A, di/dt=100A/μs		16		
Diode Forward Voltage	V_{SD}	I_S=-1A,V_{GS}=0V (Note.1)			-1.1	V

Note.1: Pulse test ; pulse width ≦ 300ns, duty cycle ≦ 2%.

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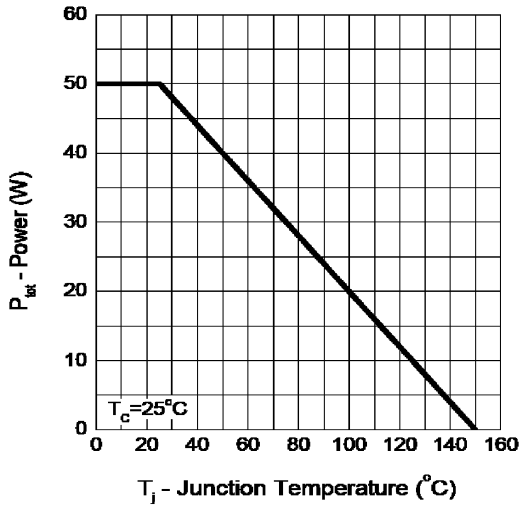
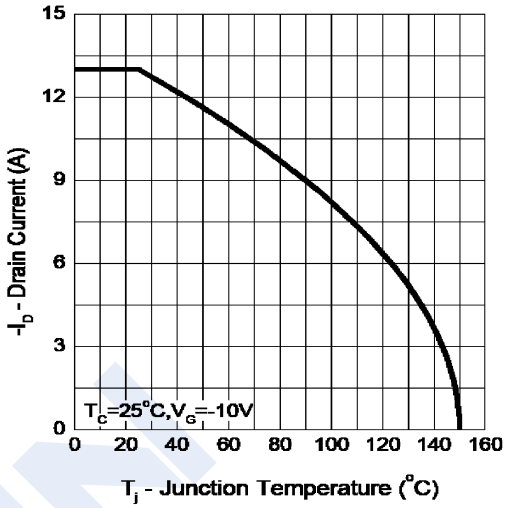
■ Typical Characterisitics

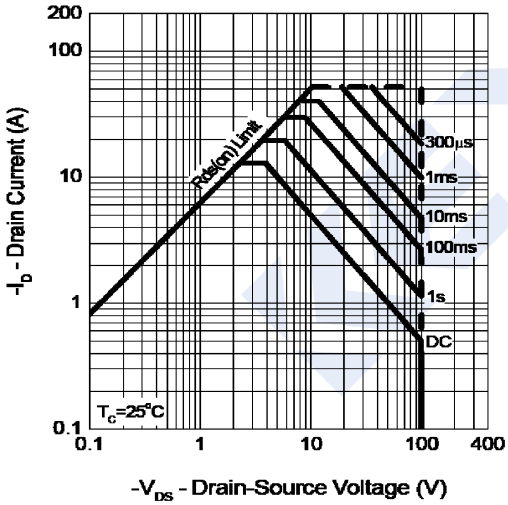
Power Dissipation



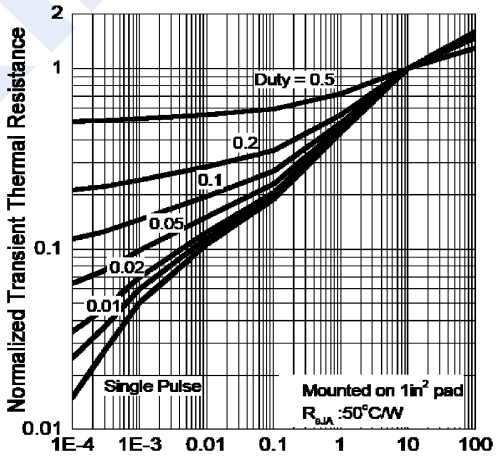
Drain Current



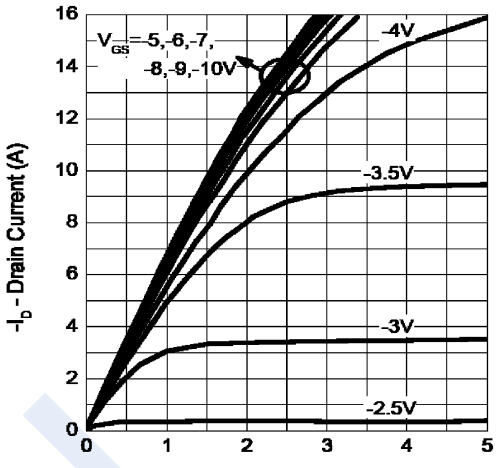
Safe Operation Area



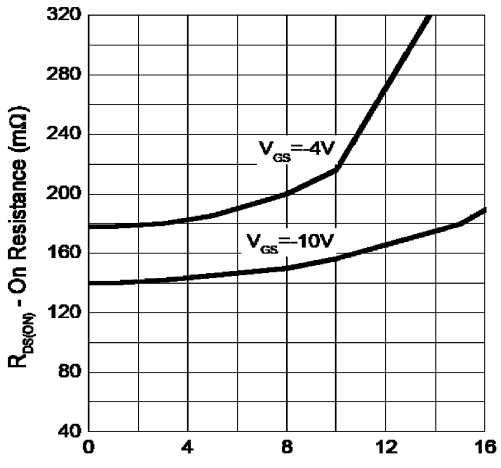
Thermal Transient Impedance



Output Characteristics



Drain-Source On Resistance



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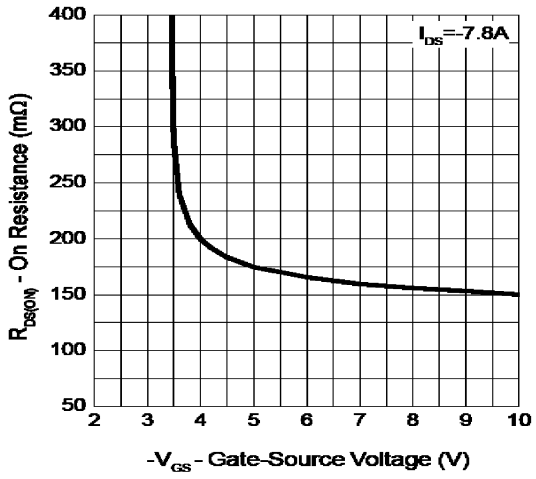
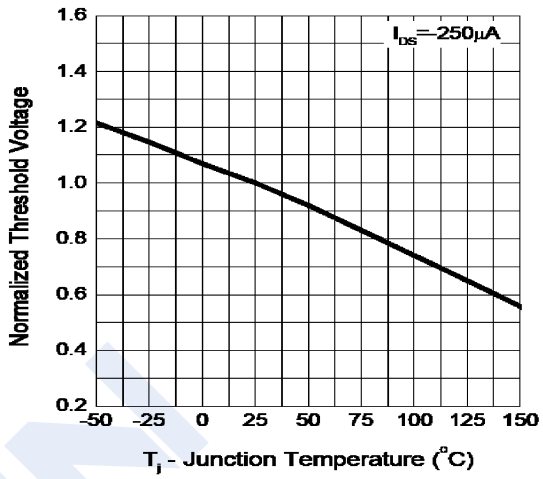
■ Typical Characterisitics

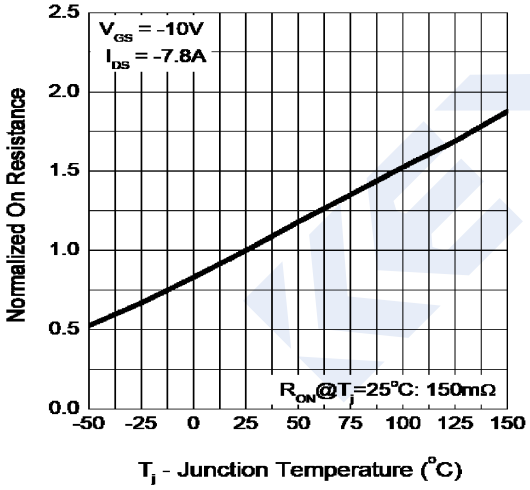
Gate-Source On Resistance



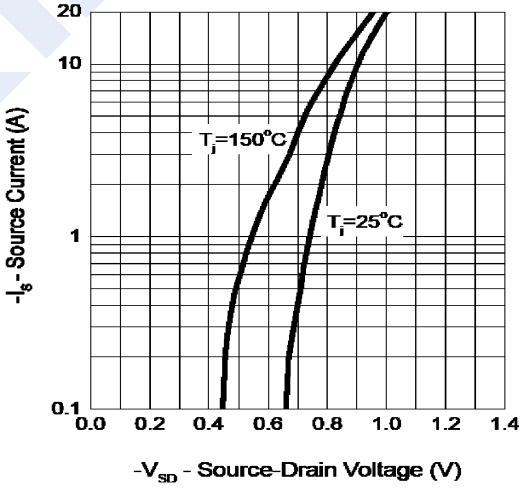
Gate Threshold Voltage



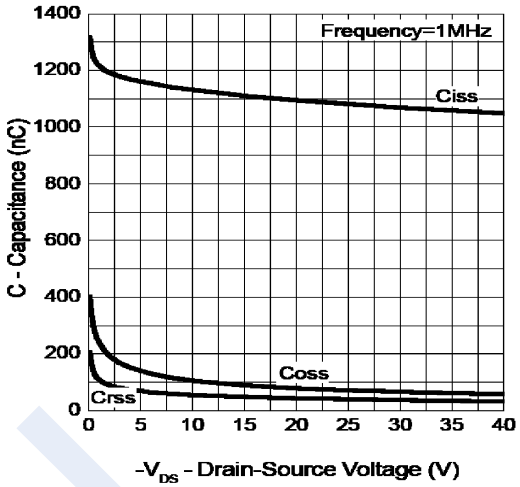
Drain-Source On Resistance



Source-Drain Diode Forward



Capacitance



Gate Charge